APPLICATION

FOR

UNITED STATES LETTERS PATENT

TO ALL WHOM IT MAY CONCERN;

BE IT KNOWN THAT I, **JUDY CAPTAIN, KATHY WILLIAMS, JAMES C. HOGAN**, citizens of the United States, have invented new and useful improvements in a

ADAPTABLE MAILBOX MOUNTING CONFIGURATION

Of which the following contains the specification.

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Attorney Docket No. KAYJ02

US PATENT APPLICATION
Docket: KAYJ02
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ADAPTABLE MAILBOX MOUNTING CONFIGURATION

FIELD OF THE INVENTION

The present invention relates to rural and curbside mailboxes. More particularly, the present invention relates to methods and apparatus for mounting mailbox flags to rural and curbside mailboxes.

BACKGROUND

Rural and curbside mailboxes are a common sight. The attached signal flag identifies when there is mail to pick up or has been delivered. Many mailbox manufacturers provide a means for the replacement of the carrier signal flag. This is desirable in the event that the flag is damaged or if a decorative aftermarket flag is to be installed. Although standards for sizes, shapes and operational requirements of mailboxes and, to a lesser degree carrier signal flags, are set by the U.S. Postal Service, the mechanism for the attachment of the flag to the mailbox is not defined or described in the standards. The only parameter is that the mechanism provides for conformance to the operational requirements. Therefore, most mailbox manufacturer's signal flag mounting mechanisms have one or more unique features. This is an inconvenience in that the consumer must contact the mailbox manufacturer

to obtain an original equipment replacement flag and also in that a properly functioning decorative aftermarket flag may be eliminated as an option.

Thus, there is a need for a mailbox signal flag mounting apparatus that can be mounted to any of a number of different types of mailboxes. The following represents a list of known related art:

Reference:	Issued to:	Date of Issue:
U.S. Patent 6,575,357	Rundell	June 10, 2003
U.S. Patent 6,513,706	Kuca	Feb. 4, 2003
U.S. Patent 6,425,521	Cooper	Jul. 30, 2002
U.S. Patent 6,371,367	Otero	Apr. 16, 2002
U.S. Patent 6,053,404	Jefferson et al.	Apr. 25, 2000
U.S. Patent 5,865,368	Taylor get al.	Feb. 2, 1999
U.S. Patent 5,634,589	Greene	Jun. 3, 1997
U.S. Patent 5,445,317	Sokolowski	Aug. 29, 1995
U.S. Patent 5,427,311	Kachmar	Jun. 27, 1995
U.S. Patent 5,366,148	Schreckengost	Nov. 22, 1994
U.S. Patent 5,273,207	Johnson	Dec. 28, 1993
U.S. Patent 5,123,590	Teele	Jun. 23, 1992
U.S. Patent 5,094,386	Tabacco	Mar. 10, 1992
U.S. Patent 5,092,517	Jeffries, Jr. et. al.	Mar. 3, 1992
U.S. Patent 5,082,170	Goss	Jan. 21, 1992
U.S. Patent 5,004,148	Windrem	Apr. 2, 1991
U.S. Patent 4,978,057	Roden	Dec. 18, 1990
U.S. Patent 4,072,265	Jones	Feb. 7, 1978
U.S. Patent 4,113,170	Hunsicker	Sep. 12, 1978
U.S. Patent 4,953,783	Chambers	Sep. 4, 1990
U.S. Patent 4,836,441	Crider	Jun. 6, 1989
U.S. Patent 4,805,834	Saba	Feb. 21, 1989
U.S. Patent 4,793,552	Revels	Dec. 27, 1988
U.S. Patent 4,759,496	Swick	Jul. 26, 1988
U.S. Patent 4,756,472	Hammons	Jul. 12, 1988
U.S. Patent 4,752,030	Witt	Jun. 21, 1988
U.S. Patent 4,738,392	Kovacs	Apr. 19, 1988
U.S. Patent 4,728,028	Barnes et. al.	Mar. 1, 1988
U.S. Patent 4,712,732	Esopi	Dec. 15, 1987
U.S. Patent 4,711,391	Roge et al.	Dec. 8, 1987
U.S. Patent 4,697,733	Todd	Oct. 6, 1987

U.S. Patent 4,570,846	Morgrey	Feb. 18, 1986
U.S. Patent 4,552,302	Rung	Nov. 12, 1985
U.S. Patent 4,449,663	Schluter	May 22, 1984
U.S. Patent 4,390,122	Savko	Jun. 28, 1983
U.S. Patent 4,365,740	Whitley, et al.	Dec. 28, 1982
U.S. Patent 4,344,559	Widham	Aug. 17, 1982
U.S. Patent 4,316,575	VanDarwarka	Feb. 23, 1982
U.S. Patent 4,223,828	Whitley et al.	Sep. 23, 1980
U.S. Patent 4,201,334	Janik	May 6, 1980
U.S. Patent 4,190,193	Smith	Feb. 26, 1980
U.S. Patent 4,182,479	Swift	Jan. 8, 1980
U.S. Patent 4,158,430	Wideman	Jun. 19, 1979
U.S. Patent 4,147,292	Fisher	Apr. 3, 1979
U.S. Patent 3,958,752	Pieszchala	May 25, 1976

The teachings of each of the above-listed citations (which does not itself incorporate essential material by reference) are herein incorporated by reference. None of the above inventions and patents, taken either singularly or in combination, is seen to describe the instant invention as claimed.

SUMMARY AND ADVANTAGES

The mailbox signal flag mounting apparatus for mounting replacement signal flags on rural or curbside mailboxes of the present invention includes a stem having a mounting aperture, a detachable stop tab attached to said stem, and a detachable bushing attached to said stem. A replacement mailbox signal flag includes a stem having a mounting aperture, a detachable stop tab attached to said stem, a detachable bushing attached to said stem, and a flag portion attached to the distal end of said stem in relation to the mounting aperture.

The apparatus and signal flag of the present invention presents numerous advantages, including: (1) provides a mounting configuration that is adaptable to most

rural and curbside mailboxes in which the manufacturer has provided a means to remove and replace the carrier signal flag; (2) provides a replacement flag that when installed complies with the U.S. Postal Service operational requirements; (3) adapts to unique features of individual mailbox manufacturer's carrier signal flag mounting designs; (4) provides for U.S. Postal Service compliant operation of aftermarket carrier signal flags; (7) provides an option other than relying on the mailbox manufacturer for obtaining a properly functioning replacement flag; (8) provides manufacturers of decorative aftermarket carrier signal flags a means of producing a flag that can be installed on a variety of manufacturer's mailboxes and be in compliance with U.S. Postal Service operational requirements; (9) helps reduce the number of non-compliant flags in use, thereby reducing the hazards and inconveniences to postal carriers.

Additional advantages of the invention will be set forth in part in the description which follows, and in part will be obvious from the description, or may be learned by practice of the invention. The advantages of the invention may be realized and attained by means of the instrumentalities and combinations particularly pointed out in the appended claims. Further benefits and advantages of the embodiments of the invention will become apparent from consideration of the following detailed description given with reference to the accompanying drawings, which specify and show preferred embodiments of the present invention.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 shows an embodiment of the present invention.

FIG. 2 shows a view of Figure 1.

FIG. 3 shows the embodiment of Figure 1 from a perspective.

FIG. 4 shows an exploded view of a portion of Figure 3.

FIG. 5 shows an aspect of the present invention.

FIG. 6 shows another aspect of the present invention.

FIG. 7 shows another aspect of the present invention.

FIG. 8 shows an embodiment of the present invention installed on a mailbox.

DETAILED DESCRIPTION

Before beginning a detailed description of the subject invention, mention of the following is in order. When appropriate, like reference materials and characters are used to designate identical, corresponding, or similar components in differing figure drawings. The figure drawings associated with this disclosure typically are not drawn with dimensional accuracy to scale, i.e., such drawings have been drafted with a focus on clarity of viewing and understanding rather than dimensional accuracy.

In the interest of clarity, not all of the routine features of the implementations described herein are shown and described. It will, of course, be appreciated that in the development of any such actual implementation, numerous implementation-specific decisions must be made in order to achieve the developer's specific goals, such as compliance with application- and business-related constraints, and that these specific goals will vary from one implementation to another and from one developer to another. Moreover, it will be appreciated that such a development effort might be complex and time-consuming, but would nevertheless be a routine undertaking of engineering for those of ordinary skill in the art having the benefit of this disclosure.

As shown in **FIGs. 1 and 3**, a replacement mailbox signal flag **10** includes a flag portion **24** attached to one end of a stem **12,** a mounting aperture **14** on the distal end of said stem in relation to the flag portion, a detachable stop tab **16** attached to said stem on the same end as the mounting aperture, and a detachable bushing **22** attached to said stem.

In the preferred embodiment, stem **12** is an elongated flat plastic strip having on one end a mounting aperture **14**, and on the other end a flag portion **24** that can be adapted to individual designs. Said aperture **14** is of a diameter large enough to accommodate the insertion of the screw, bolt, or axle from an existing mailbox flag mount. To adapt said aperture **14** to accept, screws, bolts, or axles of varying diameters, a detachable bushing **22** is provided. Stem **12** has attached to it a detachable bushing **22**, preferably connected by two breakable plastic connectors **26, 28**. As shown in **FIG. 2**, detachable bushing **22** when detached can fit within mounting aperture **14**. Said bushing **22** has an outside diameter approximately equal to the inside diameter of said aperture **14**. As shown in **FIG. 4**, bushing is inserted into aperture **14**, and then the existing screw, bolt, or axle from the mailbox on which the flag is being mounted inserts through bushing **22**. Where screw from mailbox is larger than the bushing **22**, the bushing **22** is not used. As shown in **FIGs. 5-7**, stem **12** has attached to it a stop tab **16** which can be detached in segments **18, 20**, by breaking off first segment **18 and** leaving second segment **20** as shown in **FIG. 6**, or by breaking off the entire stop tab, as shown in **FIG. 7**. Second segment **20** is scored from the stem leaving a notch **30** in the stem as shown in **FIGs. 6-7**. To facilitate breaking off the first and second segments, **18** and **20**, the stop tab **16** is scored to

make break lines. When flag is moved from the vertical position to the horizontal, shown in **FIG. 8**, the stop tab **16** stops the flag from descending below the horizontal, an approximately ninety degree arc swing. User detaches stop tab **16** segments **18, 20** as determined by the mailbox mount so that when the flag is mounted, it stops its arc swing at the horizontal. Stop tab segments **18, 20** are removed as needed depending on the mailbox mount. **FIG. 8** shows a mailbox mount where the entire stop tab **16** is left attached. The horizontal is a line parallel to the bottom edge of the mailbox, perpendicular to the front edge of the mailbox. Ideally the carrier signal flag should retract from the upright to a horizontal position with the leading edge of the flag stem being parallel to the top of the mailbox. Certain mailboxes mounts will require detaching the entire stop tab **16** so that the flag can be lowered to the horizontal. The notch **30** is provided for mailboxes which have mounts which would interfere with complete lowering of the flag. The present invention is preferably made of plastic and is plastic injection molded.

For the preferred dimensions, the flag portion **24** is 2.5 inches (6.35 cm) by 4.125 inches (10.4775 cm) by 0.125 inches (0.3175 cm), the stem **12**, not including the portion of the stem taken up by the flag portion, is 7.5 inches (19.05 cm) by 0.750 inches (1.905 cm) by 0.125 inches (0.3175 cm), the mounting aperture **14** has an inside diameter of 0.375 (0.9525 cm), the bushing **22** has an outside diameter of 0.375 inches (0.9525 cm), a width of 0.188 inches (0.47752 cm), and an inside diameter of 0.200 inches (0.508 cm), and the stop tab **16** extends out from the stem by 0.438 inches (1.11252 cm) with a width of 0.125 inches (0.3175 cm).

In the preferred operation, the replacement flag **10** is mounted on a mailbox by breaking the detachable bushing **22** connector tabs **26, 28** and inserting, as needed, the bushing **22** into the mounting aperture **14**. The screw, bolt, or axle of the existing mailbox mount from the existing flag on the mailbox is then inserted through the mailbox mount and through the mounting aperture **14** and, as needed, the bushing **22**, to connect to the mailbox mount. Where required the detachable stop tab **16** segments **18, 20** are removed so that when the replacement flag **10** is lowered to the horizontal, it stops at the horizontal without lowering further. This stop point, at which the flag stops at the horizontal, is unique to each manufacturer's mounting bracket and specific to the original equipment flag stem's width and/or contour. The provided removable first and second segments **18** and **20**, allow the user to tailor the replacement flag **10** to mounts having differing stop points to ensure that the replacement flag when lowered stops at the horizontal.

Those skilled in the art will recognize that numerous modifications and changes may be made to the preferred embodiment without departing from the scope of the claimed invention. It will, of course, be understood that modifications of the invention, in its various aspects, will be apparent to those skilled in the art, some being apparent only after study, others being matters of routine mechanical, chemical and electronic design. No single feature, function or property of the preferred embodiment is essential. Other embodiments are possible, their specific designs depending upon the particular application. As such, the scope of the invention should not be limited by the particular embodiments herein described but should be defined only by the appended claims and equivalents thereof.